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TITLE: HEAT RESISTANCE AND VIBRATION RESISTANCE TYPE PRESSURE
DETECTOR

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ABSTRACT:

PURPOSE: To take a measurement having no error for a long period without cooling by using a high-temperature resistance type piezoelectric element made of lithium niobate or equal-effect quality as a piezoelectric element, and supporting this piezoelectric element by support means whose quantity of thermal expansion is matched with a case.

CONSTITUTION: The piezoelectric element 14 uses the high-temperature resistance type piezoelectric element of lithium niobate or equal-effect quality, and is stored in the case 12. The quantity of thermal expansion of the support means A and A for the piezoelectric element 14 is coincident with that of the case 12. Therefore, the piezoelectric element 14 and a diaphragm 11 maintain invariably constant pressure transmission relation. Further, the piezoelectric element of lithium niobate or equal-effect quality has a 1,150°C Curie point and neither breaks nor has an error at combustion temperatures below the Curie point. This invention does not requires piping for cooling water for a fuel pressure detector, so a measurement having no

error is taken for a long period without cooling.

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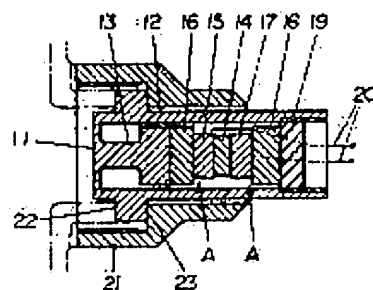
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(54) HEAT RESISTANCE AND VIBRATION RESISTANCE TYPE PRESSURE DETECTOR

(57)Abstract:

PURPOSE: To take a measurement having no error for a long period without cooling by using a high-temperature resistance type piezoelectric element made of lithium niobate or equal-effect quality as a piezoelectric element, and supporting this piezoelectric element by support means whose quantity of thermal expansion is matched with a case.

CONSTITUTION: The piezoelectric element 14 uses the high-temperature resistance type piezoelectric element of lithium niobate or equal-effect quality, and is stored in the case 12. The quantity of thermal expansion of the support means A and A for the piezoelectric element 14 is coincident with that of the case 12. Therefore, the piezoelectric element 14 and a diaphragm 11 maintain invariably constant pressure transmission relation. Further, the piezoelectric element of lithium niobate or equal-effect quality has a 1,150°C Curie point and neither breaks nor has an error at combustion temperatures below the Curie point. This invention does not requires piping for cooling water for a fuel pressure detector, so a measurement having no error is taken for a long period without cooling.



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